

Notice of Allowability

Application No.

10/652,748

Examiner

Angela J. Martin

Applicant(s)

TSUNODA, TADASHI

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/23/05.
2. ☒ The allowed claim(s) is/are 1-5.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

REASONS FOR ALLOWANCE

1. The following is an examiner's statement of reasons for allowance:

The Applicant claims a fuel cell comprising a pair of separators and electrolyte electrode assemblies interposed between the separators, wherein each of the separators includes a first plate and a second plate stacked together; the electrolyte electrode assemblies are interposed between one of the separators having the first and second plates and the other of the separators having the first and second plates; a fuel gas channel and an oxygen-containing gas channel are formed between the first and second plates which are joined together; a first ridge is formed on the first plate, and a second ridge is formed on the second plate, and the first ridge and the second ridge protrude away from each other to form the oxygen-containing gas channel between the first and second ridge; the first plate includes a first outer projection and a first inner projection on opposite sides of the first ridge; the second plate includes a second outer projection and a second inner projection on opposite sides of the second ridge; and the first outer projection and the first inner projection protrude oppositely to the first ridge, and the second inner projection and the second outer projection protrude oppositely to the second ridge such that the first outer projection and the second outer projection are in contact with each other, and the first inner projection and the second inner projection are in contact with each other.

In the prior art of record, Beckmann et al., CA 2,422,926, a membrane electrode assembly between separator plates, wherein the separator plates are placed side by side, and the fuel gas channel is formed between the MEA and one of the separator

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plates and an oxygen-containing gas channel is formed between the MEA and the other of the separator plates. Shindo, JP 11-16581, teaches grooves formed on each separator and a fuel gas pipe and an oxidizing gas pipe are inserted into the grooves.

However, the prior art of record, taken either alone or in combination, fails to disclose or render obvious, a fuel cell comprising a fuel gas channel and an oxygen-containing gas channel are formed between the first and second plates which are joined together and projections on the plates, such that the first outer projection and the first inner projection protrude oppositely to the first ridge, and the second inner projection and the second outer projection protrude oppositely to the second ridge such that the first outer projection and the second outer projection are in contact with each other, and the first inner projection and the second inner projection are in contact with each other.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela J. Martin whose telephone number is 571-272-1288. The examiner can normally be reached on Monday-Friday from 9:00 am to 5:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AJM


PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER